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ABSTRACT

This paper provides a composite picture of some recent studies of research, demonstration, and curriculum development programs. The primary focus is on three studies: "Assessing Vocational Education Research and Development" (National Academy of Sciences, 1976, COVERD Report, ED 128 754); Anthony H. Pascal, et al., "Federal Programs Supporting Educational Change, Vol. III, The Process of Change, Appendix D. Innovations in Career Education" (Rand, 1975, ED 108 328); and "An Evaluation of Vocational Exemplary Projects: Part D Vocational Education Act Amendments of 1968" (Development Associates, Inc., 1975, ED 109 475). Two other studies are used for comparison: "Report to the Congress: What is the Role of Federal Assistance for Vocational Education?" (Comptroller General of the United States, 1974, GAO Report, ED 105 132) and "Knowledge and Policy in Manpower: A Study of the Manpower Research and Development Program in the Department of Labor" (National Academy of Sciences, 1975, DOL/MR&D Report, ED 118 802). Each report is reviewed, including methods of research, findings, conclusions and recommendations, and a critique. All five reports are summarized in a table comparing and highlighting purpose, scope, data sources, findings, and recommendations. A synthesis of the reports is also presented. Recommendations for methods of evaluating future Vocational Education R&D programs conclude the document. A short bibliography is appended. (BL)

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EVALUATION OF VOCATIONAL EDUCATION R&D PROGRAMS

An Integrative Analysis of Recent Studies

by

Joel H. Magisos and Allen B. Moore

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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THE CENTER MISSION STATEMENT

The Center for Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOREWORD

Vocational education research and development (R&D) enters a new era with the newest federal legislation for vocational education (P.L. 94-482). This legislation has been influenced by the strengths and weaknesses of the vocational education R&D program conducted since passage of the Vocational Education Act of 1963. These strengths and weaknesses have been examined by the Committee on Vocational Education Research and Development (COVERD) in a USOE-sponsored study managed by the National Academy of Science. This and four other studies are the subject of this integrative analysis.

Evaluation of Vocational Education R&D Programs: An Integrative Analysis of Recent Studies was prepared, at USOE request, as part of the AIM/ARM Project at The Center for Vocational Education. It is part of The Center's continuing effort to analyze information on issues and problems critical to the future of vocational education. This publication treats a subject which is of critical importance to The Center—vocational education R&D. It reiterates the weaknesses in the R&D program revealed in the assessments and is critical of the assessments themselves. Most important, it suggests how a future assessment might be designed to have even more impact on the R&D program. It is recommended that planning for the next assessment begin immediately.

Recognition is given to Joel H. Magisos and Allen B. Moore for their scholarship as authors of this publication. Dr. Magisos is Associate Director of Information and Field Services and Dr. Moore is a Specialist at The Center.

Robert E. Taylor, Director
The Center for Vocational Education

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INTRODUCTION

The purpose of this paper is to review and synthesize some recent studies of research, demonstration, and curriculum development programs funded under Part 4(c) of P. L. 88-210 and Parts C, D, and I of P.L. 90-576. It provides a composite picture of these studies and suggests some directions for further assessment of vocational education research and development. The studies under review were conducted in the context of growing public interest in the effectiveness of government-sponsored programs, concern by those involved in the operation of these programs, and preparations for new federal legislation for vocational education. Three of these studies are the focus of this paper:

Assessing Vocational Education Research and Development. Washington, D.C.: National Academy of Sciences, 1976. (COVERD Report) ED 128 654

Pascal, Anthony H. et al. *Federal Programs Supporting Educational Change, Vol. III, The Process of Change, Appendix D. Innovations in Career Education,* Santa Monica: Rand, April 1975. ED 108 328

An Evaluation of Vocational Exemplary Projects: Part D Vocational Education Act Amendments of 1968. Washington, D.C.: Development Associates, Inc., March 1975. ED 109 475

Two other studies are considered for context or comparison although they do not themselves focus on vocational education research, curriculum development, or demonstration programs. These are:

Report to the Congress: What is the Role of Federal Assistance for Vocational Education? Washington, D.C.: Comptroller General of the United States, December 31, 1974. (GAO Report) ED 105 132

Knowledge and Policy in Manpower: A Study of the Manpower Research and Development Program in the Department of Labor. Washington, D.C.: National Academy of Sciences, 1975. (DOL/MR&D Report) ED 118 802

Either the acronyms (COVERD[1], DOL/MR&D[2], and GAO[3]) or the publishers (Rand and Development Associates) are used throughout this paper when referring to these reports or the work of the group doing the assessment. Reference to R&D in this paper is to programs of research, curriculum development or demonstration conducted under the provisions of federal vocational education legislation or to research and development generically.

The relationships between the five studies is shown in Figure 1. The GAO Study provides oversight of the entire vocational education program. Vocational education is the link between the GAO Report and the COVERD, Development Associates, and Rand reports which consider various aspects

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[1] Committee on Vocational Education Research and Development

[2] Department of Labor Manpower Research and Development

[3] General Accounting Office

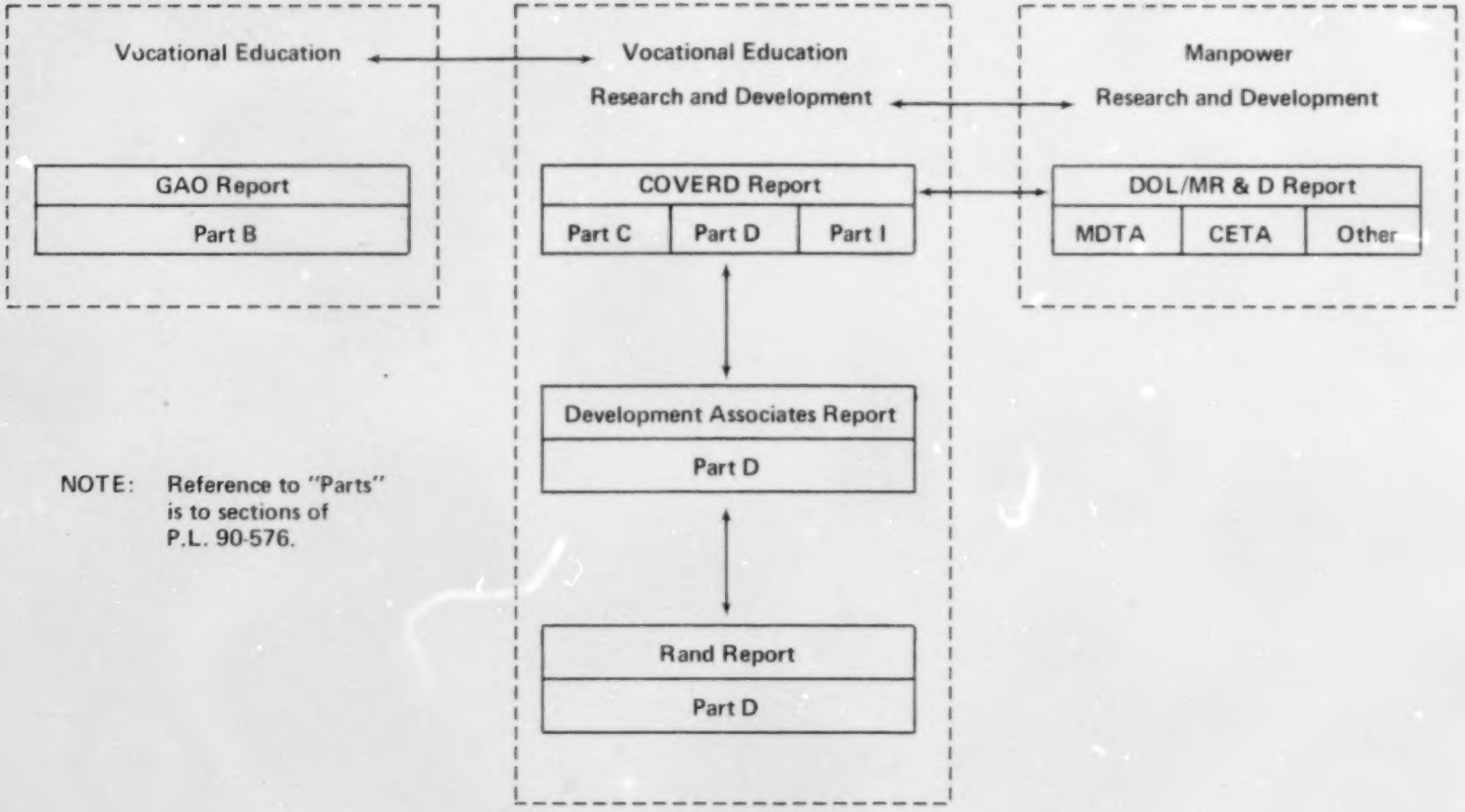

Figure 1. Relationship of Reports

of the vocational education R&D program. R&D is the common purpose between these reports and the DOL/MR&D Report which focuses on the manpower R&D program of the Department of Labor. While the Development Associates and Rand reports focus on Part D of P.L. 90-576, only COVERD focuses on all aspects of the federally-assisted vocational education R&D program.

This paper summarizes the substance of these reports and seeks to find some common threads among them that might synthesize into conclusions with implications for future programs of self renewal for vocational education. The review for this paper has included study of the reports, discussion with the investigators and sponsors, and review of earlier drafts by leaders in vocational education and vocational education R&D.

BACKGROUND OF VOCATIONAL EDUCATION R&D

The foundation for vocational education R&D was laid with the Smith Hughes Act of 1917. Although R&D was not authorized *per se* in this act, it did provide continuing support for educational programs in agriculture, home economics, trades and industry, and teacher training. Teacher training (or teacher education as it is now called) for agriculture and home economics was conducted, for the most part, in land grant colleges where a rich tradition of R&D was developing in these substantive areas. The teacher educators, themselves a product of the land grant colleges, could see the applicability of scientific methods to the problems of the developing programs. Furthermore, they were employed in settings where scholarly work was considered essential to the professional role of faculty members. Many of these teacher educators conducted small studies and directed the research work of graduate students. These studies were virtually "labors of love" because they had little financial support; hence, they were limited in scope and rarely dealt with problems of real significance.

Other federal legislation was enacted between 1917 and 1946 which extended vocational education into new areas (e.g., distributive education), increased the authorization for funding, or dealt with emergencies (e.g., World War II). The George Barden Act of 1946 was the first to specifically mention research when it authorized funding for guidance, teacher training and research. Following this legislation, vocational education R&D still was limited to small staff studies and graduate research conducted in teacher education departments of colleges and universities. Few leaders in vocational education envisioned a program of R&D that would tackle vocational education problems on a national scale.

The Vocational Education Act of 1963 (P.L. 88-210) proved to be the landmark legislation for vocational education R&D because it contained broad provisions for research, training, experimental, demonstration or pilot programs needed to carry out the emphases of the Act. Section 4(c) of P.L. 88-210 authorized funding these programs at the discretion of the Commissioner of Education with 10 percent of the total funds appropriated under the Act. P.L. 88-210 also had a different educational program focus. It called for educational programs designed to meet the needs of special populations of people rather than focus upon occupational areas. Much needed to be studied and developed! The first big job in vocational education R&D was building the capacity for R&D. In a series of program administration events, several new institutions for R&D were established with federal funds:

- The Center for Research and Leadership Development in Vocational and Technical Education (now The Center for Vocational Education) at The Ohio State University (1965)
- ERIC (Educational Resources Information Center) Clearinghouse on Vocational and Technical Education at The Center at The Ohio State University (1966)

- The Center for Occupational Education at North Carolina State University (1965)
- Research and Development Units (RDU) at Washington State University, Iowa State University, and Michigan State University (1965)
- Research Coordinating Units (RCU) at universities or in state departments of education in most of the states (1965)

Funds from P.L. 88-210 also were allocated for such research priorities as program evaluation, vocational education resource development, vocational guidance and career choice, organization and administration, and new careers (Taylor and Miller).

These were exciting and challenging times for those engaged in vocational education R&D. Unfortunately, the tide turned for vocational education R&D when Congress declined to continue the full allocation of authorized funds for the R&D program. Federal administrators were forced to close out or drastically reduce the programs of some of the institutions that they had established. The RDU's were abandoned altogether. RCU's were curtailed until reauthorized under the 1968 Amendments. The ERIC Clearinghouse on Vocational and Technical Education was continued under the general ERIC program. The Centers became more closely aligned with the university-based centers and regional educational laboratories in general education. All of these manuevers were accompanied by an evolving program purchase policy in the U.S. Office of Education, as opposed to an institution capacity building posture.

The Vocational Education Amendments of 1968 (P.L. 90-576) gave vocational education R&D another chance, but in another form. It authorized the support of R&D under three parts:

Part C: research and training in vocational education; 50% to be administered by the States (of which 75% could be used for RCU's*) and 50% to be administered by the Commissioner of Education

Part D: exemplary programs and projects (demonstration); 50% to be administered by the States and 50% by the Commissioner

Part I: curriculum development in vocational and technical education; 100% to be administered by the Commissioner

Insofar as the established R&D institutions were concerned, with the exception of the RCU's, the 1968 Amendments made the program purchase policy a reality. These institutions were forced to compete for the privilege of conducting each project under a grant or, more commonly, a contract.

The newest federal legislation for vocational education (P.L. 94-482), passed October 12, 1976 during the development of this paper) maintains the intent of Parts C, D, and I of the 1968 Amendments, but it requires some changes in administration. For example, more discretion is given to the Commissioner, funds are not earmarked for specific kinds of R&D activities, and applicants are

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*The Vocational Amendments of 1968 (P.L. 90-576) provided funds to state agencies resulting in many RCU's being moved from universities to state departments of education.

required to ". . . demonstrate a reasonable probability that such grant will result in improved teaching techniques or curriculum materials . . . in a substantial number of classrooms or learning situations within five years after the termination date of such grant." [P.L. 94-482, Sec. 171 (b)]. It is interesting to note that Congress explicitly authorizes the establishment of a National Center for Research in Vocational Education with six broad functions:

> "(A) conduct applied research and development on problems of national significance in vocational education;
> "(B) provide leadership development through an advanced study center and inservice education activities for State and local leaders in vocational education;
> "(C) disseminate the results of the research and development projects funded by the center;
> "(D) develop and provide information to facilitate national planning and policy development in vocational education;
> "(E) act as a clearinghouse for information on contracts made by the States pursuant to section 131, section 132, and section 133 on contracts made by the Commissioner pursuant to this section; and (ii) compile an annotated bibliography of research, exemplary and innovative program projects, and curriculum development projects assisted with funds made available under this Act since July 1, 1970; and
> "(F) work with States, local educational agencies, and other public agencies in developing methods of evaluating programs, including the follow-up studies of program completers and leavers required by section 112, so that these agencies can offer job training programs which are more closely related to the types of jobs available in their communities, regions, and States. [Section 171 (a) (2)].

REVIEW OF REPORTS

The reports under review had an impact on new legislation. Too, the same conditions and opinions influenced both the investigators (i.e., COVERD, Rand, Development Associates) and Congress. The five reports described in the following sections are important to those developing vocational education R&D programs under the new Act. At least one of the reports has already generated considerable debate among those who conduct vocational education R&D. Controversy is to be expected when an evaluation is conducted on such a broad scale. Readers should try to view the reports objectively and keep in mind that even members of COVERD only ". . . agreed to disagree . . ." on some points (COVERD, p. vi). Agree or disagree, the reader should look for implications in what has been learned about vocational education R&D and what others think about it.

The three primary and two related reports are summarized in Table I, highlighting purpose, scope, data sources, findings, and recommendations. Detailed information is available in the reports themselves, each fully cited in the Bibliography with ERIC document numbers. The full text of the reports is available in microfiche or hardcopy from the ERIC Document Reproduction Service.

COVERD Report[1]

The Committee on Vocational Education Research and Development (COVERD) was formed by the National Academy of Sciences to review and assess the vocational education R&D programs

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[1] *Assessing Vocational Education Research and Development.* Washington, D.C.: National Academy of Sciences, 1976.

TABLE I

COMPARISON OF VOCATIONAL EDUCATION R&D EVALUATION AND RELATED REPORTS

Comparison Factors	Vocational Education Evaluation Reports			Related Reports	
	COVERD	RAND	Development Associates	GAO	DOL/MR & D
1. Purpose of Study	Review and assess vocational education R&D; recommend changes in policy	Examine federal programs supporting educational change including vocational education	Obtain information to assist continued operation of vocational exemplary projects	Review operation of vocational education programs	Review, assess, and make recommendations regarding manpower research and development
2. Scope of the Study Topic	Programs funded under Part 4 (c) of PL 88-210 and Part C, D, and I of PL 90-576 during 1965-1974 period; $250 million for nearly 5,000 projects	First round of career education exemplary projects funded under Part D of PL 90-576; $22½ million ($120 thousand per year for 50 projects)	First round of career education exemplary projects funded under Part D of PL 90-576; $22½ million ($100-200 thousand each year/state for about 61 projects)	Vocational education programs funded since enactment of PL 88-210; $3 billion total ($146 million in the seven states studied in 1973)	R&D programs conducted by the Department of Labor's OMRD under MDTA and CETA; $250 million for nearly 2,000 projects
3. Investigating organization; sponsoring agency; date of report	National Academy of Science; U.S. Office of Education/BOAE; August 1976	Rand, U.S. Office of Education; April 1975	Development Associates, Inc.; U.S. Office of Education/Office of Planning, Budgeting, and Evaluation; March 1975	Comptroller General of the United States; Congress; December 31, 1974	National Academy of Science; U.S. Department of Labor/OMRD; 1975
4. Sources of Data and Methodology	Committee members, testimony and survey of leaders and representatives; 15 commissioned papers; site visits to 10 RCU's; review of reports and literature	Review of literature; site visit to nine projects around the country; four state-administered, five federal-administered	Questionnaires and tests to 4,632 participating and 4,063 nonparticipating 6th, 9th, and 12th grade students in 50 projects, and to 1,433 teachers and 229 counselor participants plus a random sample of nonparticipating 6th grade teachers	Program reviews in California, Kentucky, Minnesota, Ohio, Pennsylvania, Texas, and Washington	Review of literature, committee input, 20 commissioned papers, and site visits
5. Findings and conclusions of study	Little evidence of impact on students due to – Shifting priorities Geographic distribution of funds Lack of coordination	Projects weak as a treatment to avoid resistance; became short-lived, insignificant enrichment programs Projects planned better did better	Little relationship between objectives and performance activities Little impact on students Lack of difference may be attributed to use of treatment in nonparticipating schools	State and local support increased; enrollment grown; opportunities for disadvantaged and handicapped increased Use of federal funds not adequately evaluated	Accomplishments in four areas – Labor force data Labor market theory Manpower needs of disadvantaged

TABLE I (Continued)

Comparison Factors	Vocational Education Evaluation Reports			Related Reports	
	COVERD	RAND	Development Associates	GAO	DOL/MR & D
5. Findings and conclusions of study (continued)	Inadequate dissemination and utilization Failure to maximize or measure impact Slow start up Failure to touch real questions or clarify issues More development and demonstration than research Body of knowledge increased, programs and products in use, and R&D capacity built	Site selection essential to success; middle-sized schools best Project directors must be good performers; school personnel need to be involved in planning Materials developed on site work better Extensive staff development needed Little SEA input Little cross fertilization Staff dissipated in third year; little persistence of programs beyond project Evaluation had little impact	Student outcomes related to expenditures; many projects under-spent Not all treatments used on all students in participating schools Required continuation of activities beyond projects did not occur	Funds used to support traditional programs too often Federal dollars too often not used effectively Planning often has been too compliant, limited and data starved Training resources not considered Facilities not used efficiently Manpower requirements not considered	Manpower policy and program effectiveness (assessment) Under emphasis in six areas – Unemployment and labor shortage Cultural factors Job search behavior Racial discrimination Nontreatment variable Worker dislocation and adjustment Coherent R&D strategy, although lacking a central, unifying thrust Quality of intramural R&D varied, but generally good Declining size and experience of OMRD staff adversely affecting R&D management
6. Recommendation in report	Consolidate Part C, D, and I programs Administer R&D in BOAE 50% for national and multi-state priorities Separate and articulated career education R&D Improve priority setting Mix announcement and funding procedures Involve women and minorities in R&D Adequately fund a national R&D center Coordinate curriculum development, possibly at National Center Adequately support ERIC and AIM/ARM in one location Establish information analysis program Fund dissemination and utilization, using several strategies	(No recommendations; conclusions for use in improving subsequent rounds of projects are implicit in findings)	Implicit in the findings and conclusions are recommendations that predetermined criteria be established Guidance and assistance in project management be given Clear intent, careful planning, and sufficient staffing be provided Comprehensive, impact-oriented evaluation be used for program modification	Set limit on use of federal funds for state administration Require federal funds to be used for planning at state Require that federal funds be used to develop, improve, and extend Adopt policy to provide special needs programs by requiring either specific matching or larger set-asides Require relating to post-secondary commissions and CETA Require set-aside for cooperative use of facilities Avoid construction Match programs to job market Require work experience Require placement and follow-up	Co-existence and interaction of program components aimed at different policy interests and R&D objectives Areas of concentrated effort related to long-term policy Flexibility to respond to knowledge requirements at policy and program levels Balance among short, medium and long term R&D

sponsored by the U.S. Office of Education during 1965-1974 under authority of the Vocational Education Act of 1963 and 1968 Amendments, and to recommend changes in R&D policies and programs for the coming decade. The 11 members of COVERD were selected because of their special competence and representation of R&D, vocational education and related fields. Their work was supported by Academy staff, consultants, and USOE program administrators. Their report was reviewed by a group other than the authors and was approved by the Governing Board of the National Research Council, whose members are drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. Initially, the report was to have been available for Congressional hearings on the new vocational education legislation. As it turned out, only a draft of the report was available for Congressional committee hearings.

Methods

COVERD met many times to grapple with the issues and to analyze a mountain of data. Their methods included:

1. Reviewing 120 reports of vocational education R&D and other literature such as review and syntheses of research.

2. Commissioning 15 special reports and papers related to vocational education R&D.

3. Holding hearings to accept oral and written testimony from various vocational education and and vocational education R&D leaders and surveying representatives of groups (some 20 represented).

4. Providing their own input to the Committee deliberations.

5. Visiting RCU's to observe the state administration of vocational education R&D funds, particularly Parts C and D.

6. Synthesizing all of the input into the COVERD Report.

Findings

The first paragraph of the report is startling in its directness and implications:

> The Committee has found that the $250 million spent by the U.S. Office of Education on vocational education research and development during the last ten years has not had documented, widespread impact. Although the committee did not have adequate data and models for rigorous evaluation, the available data do not indicate that vocational education research and development (R&D) findings and products have had an influence on the knowledge, skills, or employability of large numbers of students. The Committee believes that vocational education R & D shares with educational R & D a lack of both demonstrated impact on students and methods for measuring impact. (COVERD, p. 1)

COVERD highlighted several of the reasons for this limited impact, including shifting research priorities based on political and bureaucratic considerations, geographic restrictions on distribution of R&D funds, lack of coordination between parts, inadequate dissemination and utilization, failure to maximize or measure impact, and slow startup because of the need to build capacity. COVERD believed

that the deficiencies stem from a lack of policy, administration, and leadership in vocational education R&D. It noted that, in spite of vocational education's shift in focus from labor market to people, R&D rarely touched on the real questions or helped to clarify the issues. COVERD was hampered in its own assessment by a lack of objectives in R&D, insufficient data, and subjective impact measures. COVERD recommends some sweeping changes to effect communication and coordination, ensure work on long term problems and needs of special populations, minimize political and bureaucratic influences, improve information handling, and increase dissemination and utilization.

COVERD reviewed the history of education and vocational education R&D and concluded that:

> If research is to improve the education of vocational students it must be more farsighted, expanded in scope, and improved in quality (COVERD, p. 15)

COVERD further concluded that there has been more development and demonstration than research, research has been more descriptive than experimental, there are few researchers, career education has received emphasis at the expense of vocational education, and there has been much activity in curriculum development. It reviewed the findings and methodological problems of Project Baseline* and Development Associates (also reviewed in this paper). It described nine projects considered successful by USOE personnel, the Southwide Research Coordinating Council, and individual COVERD members:

Aviation Mechanics Project (Allen)
Electro-Mechanical Equipment Technology Project (Roney)
The Kingdom of Could Be You (Sutherland Associates)
Alabama Vocational Management Information System
Florida's Ecological Approach
Mississippi Career Education Project
Texas Survey of Needs
Allied Health (Anderson)
Job Experience Kits (Krumboltz)

Implicit in the COVERD report is that, of 250 million dollars spent in 10 years, only part of the funds were for research because of the categorical allocations to research (Part C), demonstration (Part D) and curriculum development (Part I). Further, even Part C research funds were used for other than research (e.g., evaluation, demonstration, etc.).

COVERD's final chapter is devoted to a description of national and state levels of organization involved in the administration of the vocational education R&D program. On the national level, the administrative location, coordination, planning and priority setting, policy development, grants and contract award, award recipients, project monitoring and evaluating, and dissemination by the U.S. Office of Education are described. Also on this level, the national R&D centers, National Advisory Council for Vocational Education, and national dissemination systems (ERIC and AIM/ARM) are described. Attention is given to the regionally-based National Network for Curriculum Coordination (NNCCVTE). The RCU's, state departments of vocational education, and state advisory councils are discussed. Dissemination and utilization is discussed separately.

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*Lee, A. M., *Learning a Living Across the Nation.* Project Baseline. Flagstaff, AZ: Northern Arizona University.

Conclusions and Recommendations

While lamenting the lack of evidence upon which to base its assessment, COVERD concludes that vocational education R&D has added to the body of knowledge, has produced programs and techniques now in use across the nation, and has built its own capacity during this relative short period. It recommends that vocational education R&D objectives be clearly defined, reports and research syntheses be more accessible, and a plan for evaluation be developed. It recommends an advisory panel be convened every five years for review and assessment of the R&D programs. COVERD developed conclusions and recommendations which are paraphrased in the following sections.

Program Structure

- Research conducted under Part C is not being fully used as a basis for curriculum developed under Part I and for designing demonstrations under Part D; the programs should be consolidated with at least 20% allocated for research

- Shifts in policies and goals have been due to frequent changes in administrators and reorganizations of USOE: programs should remain administratively in USOE's Bureau of Occupational and Adult Education

- National and multi-state problems have not been given adequate attention under present distribution formulas; 50% of the vocational education R&D funds should be reserved as the Commissioner's share for attempts to solve these problems

- Career education has been heavily supported with vocational education R&D funds; separate funding for career education R&D should be appropriated and both R&D programs should be articulated

Program Planning and Administration

- R&D priorities have not been on a long-term, scientifically-based schedule; systematic, open, cumulative, and data-based processes for identifying priorities should be initiated at national and state levels

- Grant and contract announcement and funding procedures are restrictive; a broad mix of announcement and funding procedures should be used at national and state levels which provide more time and multi-level stages of proposing

- Women and minorities have not been involved in R&D enough; these groups should be encouraged and facilitated to participate

- USOE does not have an efficient system for collecting and recording information on the R&D program; a national management information system for vocational education R&D should be established

Institutions

- National R&D centers have served useful and essential functions, but have been less effective because of funding shifts, program purchase policies, and being forced to compete with their constituency; at least one adequately funded national R&D center should engage in comprehensive work on national and multi-state problems, policy development, high risk research, and dissemination in collaboration with others

- Curriculum coordination on a regional basis has been underfunded, fragmented, ineffective, and duplicative; there is a need to coordinate curriculum, but if it can't be adequately financed at the regional level it should be done at a national center

- RCU's vary in organization, functions, and effectiveness depending on size, administration, and assigned responsibilities; RCU's should be funded at a minimum level in every state supplemented by size formula and federal and state program matching funds, given broader responsibilities for Parts C, D, and I and general R&D management

Dissemination and Utilization

- Research reports have been accessible through ERIC and AIM/ARM but these programs have not been adequately supported; a comprehensive program should be ensured, put in one place, and sponsored by USOE/BOAE until NIE's ERIC can support it adequately

- Many vocational educators are unaware of or unable to use R&D results and products; information analysis program should be established to transform R&D outcomes into new, targeted forms

- Adequate dissemination and utilization programs have not been given priority; dissemination and utilization should receive a significant proportion of federal R&D funds, others should be funded for dissemination and utilization

Critique of COVERD

COVERD chose the most rigorous criteria for assessment of vocational education R&D—impact on students. Many feel that the intent of the authorizing legislation was not impact on students, but to build institutional capacity, train researchers, develop curriculum for emerging occupations, and demonstrate new programs. COVERD's insistence that vocational education R&D should have left a measurable impact on students cannot be refuted; however, the term "measurable" may be the Anchilles heel of the COVERD report. COVERD did not measure student achievement. It did not collect new data about vocational education, but depended mostly on secondary sources. It did not conduct a systematic analyses of R&D reports developed under federal and state funding. Only 120 publications were cited in the COVERD bibliography and many of these were reviews, journal articles, or COVERD's own commissioned papers.

It is still not known whether there was impact upon students resulting from the 5,000 projects. If there is, COVERD did not find it.

COVERD provided a focal point and forum for the discussion of where vocational education R&D should go next and the COVERD Report makes some astute recommendations. In the final analysis, these recommendations represented the synthesized judgment of an august body of national leaders who considered the complex issues involved. Their recommendations were taken into account in the newest vocational education legislation as will be seen in a later section.

Rand Report[1]

Funding for the Rand Study came from the U.S. Office of Education (USOE), an agency whose basic purpose is to ". . . introduce and spread innovative practices in public schools."[2] (Rand, 1975, (p. iii). Four programs were reviewed by Rand to identify how effectively those programs spread "innovative practices." The program included the: Elementary and Secondary Education Act (Title III, Innovative Projects); Elementary and Secondary Education Act (Title VII, Bilingual Projects); Vocational Education Act, 1968 Amendments (Part D Exemplary Project)[3]; and the Right-to-Read Program.

The Rand studies began in 1973. Five volumes of their report were issued which describe the first year's efforts. Appendix D of Volume III reports on career education projects that were funded under the Part D of Vocational Education Amendments of 1968. Topics discussed include: authorization of Part D project funding and U.S. Office of Education planning and management strategies; role of state education agencies in Part D career education projects; case studies; and synthesis of case studies.

Methods

Rand conducted on-site interviews at nine project sites and reported on seven projects; three were federally administered; two were state administered; and two were both federal and state administered activities. These reviews were reported as case studies.

Findings

Findings of the Rand Study on "first-round" career education programs have been extracted from Rand's synthesis of case studies. The authors indicate they visited nine projects but only provide seven case studies (p. III-I).

The purpose of career education is stated as: "Children were to learn the connection between what they were being taught and what they would have to know to earn a living." (p. III-I). The findings are quoted from the report in the following sections.

Initiation

- Projects with more explicit and longer planning periods did better; second-round projects are seeking to derive lessons from their predecessors. (p. III-2 and III-3)
- Our sample of fieldwork sites was so small that we were unable to draw strong conclusions about the preferred site of administration. (P. III-3)

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[1] *Federal Programs Supporting Educational Change, Volume III; The Process of Change* (Appendix D. Innovations in Career Education). Anthony Pascal et al., Santa Monica, CA: Rand, April 1975.

[2] The programs were intended to change the *status quo*, to result in new educational practices that have an impact on educational systems and students.

[3] Particularly the career education projects funded in 1970-72.

- . . . the small sample and various complicating factors make it impossible to render a judgment as to the relative efficacy of federal review state administration in the first-round career education projects. (p. III-3)

- . . . well-financed middlesized (school) systems simply tend to go in for innovation. They are constantly changing themselves, at least in non threatening ways, and have learned to do it. (p. III-4)

- . . . all of the good projects also had good project directors. (p. III-4)

- . . . whenever possible USOE should work with the LEA itself. (p. III-5)

- It is highly desirable to involve school building personnel in the earliest possible phase of the project . . .'" (p. III-5)

- Preplanning has a large payoff. (p. III-5)

- Criteria to select schools for participation in the project varied so extensively that it is difficult to draw generalizations. (p. III-6)

Implementation

- In the better projects, materials tended to be developed on-site rather than acquired elsewhere. (p. III-7)

- Staff development activities in some places consisted of two weeks in-service training and in other places as little as three hours. (p. III-7)

Maintenance and Adaptation

- Maintenance of the projects funded under VEA, Part D, in both the federal- and state-administered versions was a significant problem. In many projects, especially those administered by USOE, start-up was delayed. (p. III-9)

- . . . there was little visible impact on junior and senior high schools. (p. III-10)

- It is rarely possible to identify what actions the principals took that actually helped a project.

Continuation and Dissemination

- State support seems necessary for both continuation and effective dissemination. (p. III-11)

Conclusions

The conclusions drawn by Rand from its case studies are quoted in this section. They appear on pages III-12 and 13 of the Rand Report.

- Career education in its current development phase is a fairly weak and mild program treatment made up of standard components. It has generated little opposition except by teachers of academic courses who have resisted incorporating "vocational" concerns.

- Many LEA's use career education to try to achieve other, and to them more important, ends—for example, humanizing the schools, mobilizing the community, opening education to innovation, finding jobs for the deserving, teaching life management, acquiring outside funds, and improving vocational skill training.

- Projects that had a period of advance planning prior to the receipt of the federal grant had significantly higher levels of success.

- A major career education objective—change in the approach and behavior of teachers and counselors—occurred only in a few places and there rather intermittently.

- Local autonomy in the structuring of individual projects did not seem to contribute much to the overall quality of the project design.

- Early and authentic participation by school level staff in project conceptualization, however, is necessary to engage the cooperation of the actual implementers.

- The filter-up strategy in which the receptivity to career-oriented education is to increase as students exposed in their primary years move up the grade ladder is still only a hypothesis.

- The disinclination to confront seriously the resistance to career education in secondary schools may therefore have been a grave strategic error.

- Use of outside agencies such as universities and local action groups as intermediaries between USOE and the local schools has not generally been a successful approach.

- LEAs in comfortable (and mainly suburban) situations had more positive innovation experience.

- Projects in which neither federal officials nor local authorities made such attempt to monitor operations (e.g., the Model Cities-set aside projects) did significantly worse.

- For purposes of testing the efficacy of an innovative approach, projects probably ought to be installed in the most promising and not the most deserving schools.

- A tendency to develop materials locally characterized the best projects, but this may well fade in importance as the nation gains experience with career education.

- Much more serious and much more sustained attention must go into curriculum revision if career education is to take in secondary schools.

- SEAs will have to overcome their ignorance of and skepticism about career education and should facilitate career-oriented innovation in local systems by working for appropriate changes in procedures and working at interdistrict information exchange.

- True commitment by principals is very difficult to attain but seems to be associated with good school performance in this class of innovation.

- For all practical purposes, state financial support is critical to the continuation of projects and perhaps ought to be pledged in advance of the federal commitment to a LEA.

Critique

The Rand case studies review seven career education projects, their staff, linkage to other agencies, and project activities in narrative form. No "hard" data is presented. Interview instruments and methods of collecting this type of information are not included in the case study reports.

Each case study is written using a fictitious name. Dr. Allen B. Moore, co-author of this report, visited 17 career education programs in 13 states during 1971-72, three of which are reported by Rand. These case studies and Moore's experience are parallel, especially the observations that most career education activities took place in the elementary grades, fewer in the middle grades and even fewer at the senior high levels.

Using case studies is one method of analyzing educational programs. However, this method puts the burden on the author to synthesize and communicate what was observed with accuracy. The omission of recommendations and numerical data (e.g., structured interviews and questionnaires, achievement data and budget information) limits the usefulness of the report for decision making.

Development Associates Report[1]

The Development Associates study was funded by USOE's Office of Planning, Budgeting, and Evaluation to ". . . evaluate the effectiveness of the first round of federally administered Part D projects and their components in terms of the extent to which student outcomes attributable to project activities conformed to the legislative intent of Part D funds" (p. 2). Legislative intent, level of fiscal inputs, project objectives, emphasis of project activities, impact on students, continuation of project after initial funding, and some overall indicators of project accomplishments was to be reported. The legislative intent for the projects reviewed was to focus on career education within the boundaries of Part D funding.

Methods

Development Associates began its work in June 1973, conducted field work in February-May 1974, and submitted its final report in March 1975. Of 61 ongoing projects, 50 were selected for on-site review. Reports and available documents were reviewed. Interviews and questionnaires were used to gather data from SEA staff, LEA project personnel, and students. Data was gathered from approximately five percent of the students and faculty in the 50 projects including:

- 4632 participating students tested
- 4043 non-participating students also tested
- 1433 teachers surveyed
- 229 counselors surveyed

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[1] *An Evaluation of Vocational Education Exemplary Projects: Part D Vocational Education Act Amendments of 1968.* Washington, D.C.: Development Associates, Inc., March 1975.

Findings

Findings cited from the Development Associates report include:

- A review of the year-by-year input data revealed that in most projects in no single year did the inputs occur at the level planned. . . . it was found that in 37 out of the 50 projects visited (74%) the dollars expended were below the planned level. (p. 4)

- A review of the stated objective of the 50 projects reveals that in many cases the activities called for . . . were not addressed. (p. 4)

- On a project-by-project basis the impact of the program on students was small, with the bulk of favorable outcomes in each student group confined to a small group of projects. (p. 4)

- With respect to elementary, junior high, and senior high familiarization activities, positive indications of project effects on students occurred where relatively more project funds were expended on relatively fewer students. (p. 5)

- Well over half of the teachers and counselors surveyed in each of the 50 states visited indicated in their judgment it was important to include career education in the school curriculum. (p. 6)

- In general, neither the federally sponsored activities nor the federally expected student level outcomes of the program occurred at the level planned. (p. 6)

- The definition of key terms and concepts was neither precise nor consistent at either the federal or local levels. (p. 6)

- Budgets and expenditure records typically were based on "line-item" rather than programmatic activity categories. Determination of activity costs was very difficult. The difficulty was primarily a result of the grant application and award process which did not specify costs by activity; only in the aggregate. (p. 6)

- The evidence strongly indicates that exemplary programs require considerable start up activity and time. Failure to anticipate this adequately appears to have resulted in the inability of projects to meet expectations. (p. 6)

- Generally, participants in the projects were more exposed to visitors in their classrooms who discussed careers, and went on field trips to learn about jobs, than nonparticipants. The data suggest that this quantitative difference in the number of such experiences was not sufficient to produce a measurable impact on students. Rather, it appears that such activities need to be integrated into a well-planned and comprehensive effort. (p. 6)

- Continuation of activities beyond the project (the USOE Policy Paper required that grantees make provisions for continuing project activities after Part D funding was terminated) was disappointing:

    14 projects would terminate—*no continuation funding*
    19 projects would continue *some* activities
    8 projects *would continue* activities
    9 projects *would expand and continue* activities

- Only 26% of the projects reported having students in all levels of project activities; largest enrollments were in the elementary and middle grades; smaller enrollments in the high school grades (10-12):

  46% of the elementary enrollment averaging 2,000 per project
  47% of the middle grade enrollment averaging 1,400 per project
  35% of high school enrollments or 650 per project

  Nevertheless, 44% of the funding was used at the high school level, as compared to 26% for elementary and 29% for middle schools.

Conclusions and Recommendations

Development Associates concluded that most teachers felt that career education should be an important part of the curriculum, therefore the first year Part D program had a substantive effect. Evenso, they concluded that activities and outcomes did not reach expectations. Clearly defined objectives, definitions, and managerial requirements are needed at project and federal levels. More specifically, Development Associates concluded (pages 6-7) that:

- The definition of key terms and concepts was neither precise nor consistent at either the federal or local levels.

- Budgets and expenditure records typically were based on "line-item" rather than programmatic activity categories. Determination of activity costs was very difficult.

- Similarly, USOE did not use fiscal data as management indicators.

- The evidence strongly indicates that exemplary programs require considerable start-up activity and time.

- Generally, participants in the projects were exposed more to visitors in their classrooms who discussed careers, and went on more field trips to learn about jobs, than non-participants.

- The number of different approaches to building a bridge between school and earning a living undertaken by the first round projects was limited. Fewer than half of the projects had work experience or skill training activities.

- The primary focus of round one was elementary and secondary familiarization and orientation. Most of the total funds and most of the student participants were engaged in such activities.

- To assist college and non-college bound students in obtaining employment, the USOE policy paper indicated that projects should provide specific training in job entry skills to students not previously enrolled in vocational programs just prior to the time that they leave school. The data appears to indicate that most projects extended such training only to the non-college bound.

- The student responses indicate that guidance and counseling at the high school level was viewed by students as helpful to them. The data also indicates that a great many students did not feel they had sufficient opportunity to receive assistance from their counselors and they would have liked to have increased their contacts.

- A final point relates to the whole area of the management of educational projects. While this was not a management practice study, many of the findings and conclusions appear to relate directly to management issues. The points raised above pertaining to advanced planning, the clarity of program and project objectives, and the use of fiscal data are management questions which relate to attainment of student level outcomes.

Critique

The Development Associates report is the most systematic and data based of the five reports. It was systematic in sampling, data gathering, and reporting. Large amounts of data were collected from non-participants, students, teachers, and counselors involved in career education projects throughout the nation during 1973-74. This information was collected at the conclusion of "first-round" funding for Part D (VEA 1963 as amended in 1968) exemplary projects in career education. The report did not include recommendations, a serious limitation of the report.

GAO Report[1]

The Comptroller General Report, often referred to as the GAO report, evaluates vocational education programs authorized under the 1963 Act (P.L. 88-210) and the 1968 Amendments (P.L. 90-576). The Comptroller General ". . . focuses on selected aspects of secondary and post-secondary vocational education in seven states visited during the 1973-74 school year and discusses some underlying factors that inhibit attainment of objectives" (p. 1).

Methods

The GAO study was conducted in seven states: California, Kentucky, Minnesota, Ohio, Pennsylvania, Texas, and Washington. Data gathering procedures included interviewing federal, regional and state vocational education personnel, reviewing reports and literature; and making visits to states. GAO examined legislation, policies, directives, regulations, plans, reports, and other documents.

Findings

GAO reported findings which focused upon the role of federal funds, planning for use of funds, distribution of funds, use of training resources, and relating training to employment.

Role of federal funds. The legislation intended that federal funds would be distributed to local agencies to increase funding, give priority to special need categories, provide programs for new job opportunities, and increase participation. GAO found that large amounts of federal funds were used at the state level for administration, the ratio of local and state matching declined, special groups were not given a high priority, and enrollments had not increased proportionate to funding.

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[1] *Report to the Congress: What is the Role of Federal Assistance for Vocational Education?* Washington, D.C.: Comptroller General of the United States, December 31, 1974.

Planning for use of funds. Better planning would result in better programs. GAO found more compliance than planning, little needs assessment, fragmented organization, problems with advisory councils, and insufficient data.

Distribution of funds. Federal funds have not always been targeted to needs or initiatives called for in the legislation. GAO found funds being distributed generally rather than to high need, without regard to needs data, and without regard to local education agency ability to provide its own resources.

Use of training resources. The range of training resources available to state and local agencies have not been fully utilized. GAO found that schools want to control the facilities they use, resources haven't been inventoried, costs haven't been compared, schedules haven't been provided, new construction is preferred, and sources of equipment and supplies haven't been explored.

Relating training to employment. Federally-supported occupational programs haven't addressed changing occupational requirements. Students in traditional programs can't always find jobs. GAO found that labor market data wasn't being used, work experience often not used, and guidance, placement, and follow-up not being used adequately.

Other barriers, such as age, sex, and entrance requirements, were found to restrict access to training and employment.

Conclusions and Recommendations

The report recommends specific action by DHEW that also could influence vocational education R&D. Some of the recommendations are:

1. Expand management evaluations to state and local vocational education programs supported by federal funds (p. 102);

2. Expand working partnerships among all institutions providing occupational training at all levels (p. 102);

3. Expand efforts to develop labor market data in a form which will better enable vocational planners at state and local levels to match occupational training with manpower needs, by working cooperatively with the Department of Labor, and provide technical assistance to states for the training of vocational planners in the use of such data (p. 107).

GAO recommends that fewer federal funds to be used for state administration of vocational education and that federal funds used at the state level principally be for planning. It recommends better matching or larger setasides for special needs programs, more cooperation with other agencies on programs and facilities, and better matching of programs to the job market. It recommends requiring work experience, placement, and follow-up as part of programs.

In summary, the GAO report points out the need for closer monitoring of federal funds at all levels and encourages cooperation between and among agencies to provide vocational education for youth and adults. Even though the report is based upon study of only seven states and is directed at Part B programs, recommendations have applications to vocational education R&D because of its close connection to operating programs.

Critique

GAO cautions that the report is based on data from only seven states and may not be applicable to other states. Nevertheless, other states have had to defend their programs on the basis of the limited findings of the GAO Report. The broad generalizations and sweeping statements by GAO have not been thoroughly documented in the report, therefore many state leaders have been inclined to refute the conclusions. At issue is whether federal funds for vocational education are to be regarded as program support or for catalytic purposes.

DOL/MR&D Report[1]

The Department of Labor requested the National Academy of Sciences-National Research Council to review, assess and make recommendations about the manpower research and development program which had been in operation since the passage of the Manpower Development and Training Act (MDTA) of 1962. The DOL/MR&D Committee took an "impact on policy" approach as it examined manpower research and development.

Methods

The committee (DOL/MR&D) used several methods and sources to gather data on manpower research and development. Five subcommittees were formed to synthesize information for the report. The subcommittees studied such problems as (p. 141):

- generation and initiation of R&D projects;
- manpower R&D findings;
- utilization and dissemination of R&D findings and results;
- R&D organization and management;
- future manpower problems and policies.

Twenty papers were commissioned to summarize information on selected topics. One of these topics was developed by Dr. F. Ray Marshall, current U.S. Secretary of Labor.

The DOL/MR&D staff prepared memos and reports for review and discussion by the larger committee. Interviews were conducted with 26 Office of Manpower Research and Development (OMRD) staff members, 138 current and former Department of Labor officials, 49 persons representing state or local manpower programs, 18 individuals representing private groups, 95 persons who were involved in OMRD supported projects, 17 university based researchers, and 32 other researchers responding to a survey letter. Archival searches of the OMRD files were conducted for information and data on MR&D. Special meetings, observations and conferences were attended by DOL/MR&D committee members to obtain information and data. The committee report lists approximately 300 documents on research and related materials that were reviewed by the committee.

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[1] *Knowledge and Policy in Manpower; A Study of Manpower Research and Development Program in the Department of Labor.* Washington, D.C.: National Academy of Science, 1975.

Findings

In its study of ten years of Department of Labor manpower research and development, funded at about $250 million, the DOL/MR&D committee reported that there were four areas where substantive accomplishments had been made (pp. 22-23):

1. The collection and analysis of labor force data permits more thorough and detailed examination of the economic, institutional, psychological, and social factors underlying employment success than ever before possible.

2. The development of new theories to illuminate complexities of labor market operations, especially theories that help explain relationships between market imperfections and individuals' employment experiences, provides new grounds for discussing the role and effectiveness of manpower policies.

3. Program models and techniques for serving the manpower needs of the disadvantaged have been designed and implemented.

4. New methods for assessing manpower policy and program effectiveness have been refined and applied.

While the Committee noted the success with labor force data, new theories on labor market operations, program modules and techniques, and methods of assessing manpower policies, they suggested that there was need for manpower R&D to:

1. Review, analyze and synthesize diverse and scattered manpower studies for implications and contribution to theories and policy;

2. Examine cultural factors of minority and majority groups;

3. Solve the methodological problems associated with job search behavior;

4. Identify, isolate, and eliminate racial/job discrimination variables;

5. Strengthen they process for studying nontreatment variables that may have influences on manpower research; and

6. Reopen the study of technological changes on people and the labor market.

The Committee also noted that the Department of Labor apparently regarded its R&D activities as a service function, managing it as an adjunct to operations and consequently failing to focus on long-range policy development in the broadest sense. (p. 33)

Conclusions and Recommendations

The Committee made several recommendations related to program content, scientific capabilities, program management, utilization, and R&D resources and budgeting. These recommendations are listed here by category (pages 35-47):

Program content. There are opportunities to build upon current knowledge, to develop new knowledge related to continuing issues and on developing issues, and for increased use of social science methods.

Scientific capabilities. The Committee recommended small grants for doctoral and post doctoral work, evaluation of grantee performance and expansion of continuing grants, and consideration of a national center.

Program management. The Committee recommended long term planning involving others, improved mechanisms for performer selection, and improved OMRD staff capability through recruitment and training.

Utilization. The Committee recommended a number of techniques to improve the capability of OMRD and DOL to achieve utilization of R&D based solutions by CETA prime sponsors and others. Included in the recommended techniques are studies, surveys, demonstration, technical assistance, training, papers, and workshops.

R&D resources and budgeting. The Committee recommended an extensive analysis of long range resource requirements to be repeated every five years.

Critique

The DOL/MR&D study was a systematic review, analysis, and synthesis of R&D impact on Department of Labor policy. It appears that by dividing into subcommittees they were able to actually analyze data from approximately 300 project reports. As a result, they were able to describe accomplishments of the manpower R&D program, identify unmet R&D needs, and make recommendations to strengthen the R&D program.

SYNTHESIS OF REPORTS

Unwinding the common threads from these reports has been a delicate process. Spinning these threads into a useful fabric has been more artful than scientific. The fabric of this synthesis is woven from the assessments of R&D focus, accomplishments, quality, impact and management.

Focus of the R&D Program

The COVERD Report is critical of vocational education R&D for failing to focus on the larger philosophical and policy issues confronting vocational education during the ten-year period. On the other hand, the Part D program reviews (Rand and Development Associates) were of exemplary programs that were endeavoring to demonstrate the efficacy of career education, a major new concept. What COVERD was concerned about was the alleged failure of vocational education R&D to contribute to the clarification of the major purpose of vocational education. COVERD called for "... defining objectives, measuring the actual benefits of existing programs, and initiating exploration of new subjects in vocational education, rather than simply reacting to problems of existing programs ..." (p. 3). A similar observation is made in the DOL/MR&D Report which pointed out that manpower R&D tended to be a service function adjunct to operations, rather than concerning itself with policy.

R&D Accomplishments

While lamenting the lack of impact on students, COVERD singled out nine projects that had made significant contributions. They also reviewed the literature in nine major areas. COVERD criticized USOE because reports of projects conducted under the legislation could not be tracked, a criticism not warranted according to other sources. The nine major areas chosen for review by COVERD (i.e., career development and guidance, student with special needs, characteristics of students, teacher education, instructional techniques, curriculum development, labor market supply and demand, administration and evaluation) were of major concern during the ten-year period under review. COVERD found other benefits (e.g., accumulation of knowledge, R&D capacity) of vocational education R&D, but stated that even these have not been measured, documented or validated.

Rand and Development Associates found that career education exemplary projects, while making contributions to students and staff while in progress, did not continue as required in project agreements. They did find more enthusiastic reception to these programs in elementary and middle school levels, more career guidance activities, and better acceptance of career education as a concept. The DOL/MR&D Report also alludes to a mixed bag of accomplishments, with the most accomplishment on program process and less on policy and program impact. GAO did not address R&D accomplishments.

Quality of R&D

DOL/MR&D comes clean on the quality issue when it says that the extramural manpower R&D is varied but generally good. COVERD is much less direct on the issue. It allows that there has been an accumulation of knowledge, development of new programs now in use, commercial publication of materials developed, and an increase in vocational education R&D capability. It reviews the institutions that have been built and describes them as underfunded but generally good. It cites nine projects, mentioned before, but these emanated from some rather direct, personal sources of the committee. The fact seems to be that COVERD took testimony, studied reviews, visited sites, and speculated on possible impact, but didn't actually study many research reports that had been funded by the programs under review. Rand and Development Associates did not address the quality issue, except in indirect ways (e.g., project planning, management, treatment effects, continuation).

Impact of R&D

The COVERD study group found little evidence of impact, a finding that was corroborated in the Rand and Development Associates studies of Part D career education projects. These findings were confounded by a couple of factors. First, the COVERD group admitted that it lacked the evaluative data or models and believed that there was some impact even though it couldn't be measured objectively. So, in addition to lamenting the lack of evidence, COVERD criticized the lack of impact measures. Development Associates found little evidence of continuing impact by exemplary projects on participating school systems or on other school systems. Interestingly, lack of impact on some aspects of the manpower program is the complaint of the DOL/MR&D Report.

Impact measurement is difficult at best, but it is hard to deny the objective evidence in the Development Associates study where actual test data were gathered from participating and non-participating students. Development Associates suspected some cross contamination in treatment and Rand judged the treatment itself to be weak.

Management of R&D

All of the reports dwelled upon management. Many of the recommendations are directed to this aspect rather than the substance of vocational education R&D. It may be easier to comment upon the management than on the substance of the program. Nevertheless, COVERD blames the deficiencies of vocational education R&D on ". . . a lack of coherent policy, administration, and leadership in vocational education R&D program" (p. 2). While the size of the staff, monitoring load, qualifications of the staff, management systems used, and pertinent regulations were implied to be the underlying problems, empirical evidence or adequate descriptions of these are lacking.

Rand suggested that exemplary programs needed better planning and stronger local leadership. Development Associates found that line item budgets didn't permit matching accomplishments to expenditures, and that underexpenditures were common. DOL/MR&D found that the federal staff, declining in size and experience, was adversely affecting the DOL manpower R&D program.

FUTURE EVALUATIONS OF VOCATIONAL EDUCATION R&D

Of the five studies under review in this paper, the most comprehensive treatment of vocational education R&D was by COVERD. Conclusions from COVERD were corroborated or paralleled by conclusions in the other reports. COVERD criticized vocational education R&D for its lack of impact on both policy issues and ultimate target groups. But, what has been the impact of the evaluations themselves? Did Congress use COVERD's recommendations in the new legislation? Did USOE and other agencies change their administrative procedures? Did the RCU's behave differently? Do others know about COVERD's findings? Did the COVERD Report meet its own high standards?

Impact of the Evaluation Studies

As mentioned previously, a draft of the COVERD Report was made available to Congress rather late in the committee hearings on new vocational education legislation. On October 12, 1976, only a few months after the issuance of the COVERD Report, the Education Amendments of 1976 (P.L. 94-482) were enacted into law. It is clear that Congress had some of the same concerns as COVERD because P.L. 94-482 will result in the following changes:

1. Research, demonstration, and curriculum development programs are to be consolidated
2. Funds are to be reserved for the Commissioner to use in solving problems of national significance
3. A plan is required for establishing priorities and coordinating work on national priorities
4. A management information system for funded projects is to be developed
5. National center for research in vocational education with six broad functions is to be established
6. Research coordinating units are authorized and are to be given broad responsibilities for vocational education R&D in the states

7. Dissemination is named as one function of the national center and as a function of the state research coordinating units. Dissemination is given impetus with the requirement that contracts and grants be required to demonstrate probability of results within five years (thus requiring attention to dissemination at the outset of projects)

Other COVERD recommendations have been dealt with by USOE, NIE, and other government agencies. Some of this progress was being made even before COVERD had made its recommendations.

1. Research coordination council at the Assistant Secretary's level was established in other legislation

2. Systematic, open, and cumulative priority-setting activities have been developed by USOE and are operating within the constraints of Federal Procurement Regulations

3. Both contract and grant procedures have been used by USOE; effort has been made to announce priorities well in advance of grant announcements; and bibliographies have been made available to help Part C and D grant applicants

4. The contract for the ERIC Clearinghouse on Career Education was awarded by NIE to The Center for Vocational Education at The Ohio State University where the USOE-sponsored AIM/ARM Project has been located; the two programs are being articulated

5. Both AIM/ARM and the ERIC Clearinghouse are undertaking information analysis activities

6. Some curriculum development projects have included dissemination plans; USOE has a National Diffusion Network to disseminate approved products and programs; and NIE has several dissemination programs underway in which vocational education can participate

7. Vocational education R&D remains with USOE's Bureau of Occupational and Adult Education

8. Women and minorities received considerable attention in the new Amendments

The general public has had only a fleeting glimpse of the COVERD Report in press releases which highlighted the "lack of impact" of vocational education R&D.

The COVERD Report has not had great impact on state-level vocational education R&D yet. Individual RCU's were involved in the study as subjects or in providing testimony. As a group, the RCU's included COVERD presentations and discussions in three of their annual meetings. But they have not had mechanisms to deal collectively with the issues raised by COVERD. The impact of COVERD will be felt by RCU's when the Rules and Regulations are implemented.

Improving the Impact of Evaluation Studies

An evaluation of vocational education R&D has its most important impact upon *policy* (as in Congressional legislation), for *decisions* (as in federal agency administration), and for *planning* (as in an agency or organization at any level). So the question is, how can the maximum impact be made?

An evaluation study of vocational education R&D should address the major policy issues, be in phase with legislative calendars, and be credible to policy makers. The next national evaluation of vocational education R&D should be planned and scheduled soon so there will be time to complete the studies needed. It should be well designed with clear objectives. The criteria by which vocational education R&D is to be judged should be explicit enough to permit instrument design and data collection. Provisions should be made to package and disseminate the evaluation results to appropriate audiences. The total evaluation ought to be programmatic, linking several projects together, so that the summative evaluation is broad based.

Some Dimensions of the Next Evaluation

Whether the next federal vocational education legislation includes adequate provisions for R&D may depend upon the conclusions and recommendations of COVERD II.*

The next assessment of vocational education R&D should be timely, accurate, empirically-based, and credible. To be credible it must include input from those affected by and involved in vocational education R&D. Such an assessment must be comprehensively planned, include several projects articulated into a programmatic effort, and synthesized into a report worthy of implementation.

Actors in a comprehensively-planned assessment would necessarily include a sponsoring agency, a steering committee, several projects, and an information system. Criteria for selecting actors in the assessment program should include (1) independence, (2) integrity, (3) capability, (4) knowledge of the field, (5) available resources, and (6) access to data. Some of the sponsoring agencies and organizations which could serve in some of these roles include the U.S. Office of Education, the National Institute of Education, the General Accounting Office, the National Advisory Council for Vocational Education, and the new national center for research in vocational education.

Comprehensive Planning

It would be extremely unfortunate if planning for the second assessment of vocational education R&D was delayed until 1979. Planning, to be comprehensive, must get underway immediately. Otherwise, evidence of impact will still not be available and the final report will again be a retrospective survey of soft, secondary data.

A steering committee should be convened, possibly similar to the original Committee on Vocational Education Research and Development. This committee, with adequate support, would plan a comprehensive, programmatic approach to the assessment. Evaluative models should be examined and data needs determined. The steering committee could then recommend a series of projects, to be conducted under separate contracts, which would be the data source for the final evaluation by the steering committee or its successor, possibly named COVERD II. The sponsoring agency, with these recommendations, would issue the necessary Requests for Proposals and monitor the projects.

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*COVERD II is the authors' designation for a second assessment of vocational education R&D as recommended in the COVERD Report (p. 3). Such an assessment should be a *continuous* process, not ". . . convened every five years . . ." as recommended in the COVERD Report.

Programmatic Effort

The next assessment should be the result of programmatic effort. Why programmatic? Because no one study can adequately collect, process, and analyze all the data required for such a complex and large scale assessment. Programmatic effort has the goal of improvement and change, not maintenance. It is aimed at reducing the discrepancy between expectations and observations and provides a means to allocate scarce resources. For a more thorough examination of issues in programmatic R&D, see Pratzner and Walker.*

Some of the activities require longitudinal approaches. Others depend upon the results of divergent studies. Articulation of these divergent studies must be planned in advance. Convergence of results will be the main job of COVERD II.

Articulated Projects

Assuming that the programmatic effort is done in parts, rather than a single massive effort, the steering committee will need to specify the separate projects needed. Some of these might include:

- Evaluation of the quality of a sample of R&D projects in terms of design, conduct, reports, and impact
- Assessment of the impact of specific R&D projects upon intended target audiences
- Development of techniques for assessing whether funded projects have impacted upon students as required in P.L. 94-482
- Development of other techniques to assess the impact of projects funded before the requirements in the new act
- Syntheses of completed projects funded under a specific priority to determine what progress has been made on the priority by the sum of the projects
- Longitudinal data collection to detect differences in the vocational education programs and products traceable to R&D
- An information system capable of tracking priorities, contracts, and products

These projects, as part of a programmatic effort, should be carefully phased and sequenced so that one contributes to the other at the appropriate time.

Synthesis of Findings

The findings of the articulated projects ultimately need to be synthesized so that COVERD II can draw its conclusions and recommendations. Whether it is practical for the steering committee

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*Pratzner, Frank C. and Walker, Jerry P., Editors. *Programmatic Research and Development in Education: Positions Problems, Propositions.* Columbus, OH: The Center for Vocational Education, The Ohio State University, June 1972.

to serve as COVERD II must be examined, but there should be some common membership to facilitate continuity of purpose and synthesis of activities.

COVERD II will need competent staff support and consultant help. COVERD II may wish to commission experts to examine issues and problems in light of the findings of the various studies. Taking testimony from representatives, conducting surveys, and making on-site observations will facilitate field input. The advantages that COVERD II will have are plans, systemmatic observations, empirical data, timing, and more knowledgeable involvement by the field.

Dissemination and Utilization

With the wide involvement of the field and a scheduled completion, COVERD II will help Congress and the R&D community through the first two stages of adoption—awareness and interest. If the COVERD II report is well done, it will stand up to the evaluation and trial stages of adoption.

The dissemination and utilization strategy for the evaluation report must be included in the initial plan. Such strategy must include activities designed to create awareness and interest, packaging of information to facilitate user evaluation, trial, and adoption. For example, recommendations must be supported by findings and conclusions that facilitate evaluation of the recommendations. The recommendations also must be stated so that appropriate target audiences can use them.

In Summary

The first COVERD Report and other evaluative studies got the attention of Congress and the educational community. Because the conclusions and recommendations were not completely acceptable to everyone involved or affected, the next evaluation studies will receive even more critical attention. Therefore, it is extremely important that the evaluation effort be methodologically sound and on the right issues and problems. Early planning of articulated projects in a programmatic effort is essential.

The vocational education profession is general and the R&D community in particular will be interested in the planning for and progress of subsequent evaluations of vocational education research. Because of this interest, the agency or organization charged with the responsibility of future evaluations *must* keep vocational educators informed. They can expect to be continually monitored by vocational educators in the future.

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